Asia VIEWS

Regional Insights, Global Outreach

Vol.V No.3 September-October 2011

www.asiaviews.org

Foresting for Food

An Economic-Ecological Mosaic

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THE world is rapidly reaching a crisis point. For many decades, scientific evidence has been building that shows that the way we live on the planet is harming the ecosystems that have nurtured humanity from its beginnings. A consensus of scientists agree that we now see the more dramatic evidence of the effects of our actions in unstable and extreme weather events, unpredictable variations in meso-climate and the threatened extinction of species. More bluntly, we see increased drought periods, more extreme rainfall and concomitant flooding and reductions in agricultural productivity. The world's increasing population is being met by a decrease in agricultural production, brought about in part by a reduction in agricultural land because of pressure from urban growth and other land uses, in addition to poor cultivation techniques, unsustainable farming practices and variations in climate that adversely affect the growth patterns of crops.

Daily, I read such media coverage and reports from scientists in Indonesia, Southeast Asia and the rest of the world, providing a picture of a planet under enormous stress. The bleakest predictions for our future range from mass crop failure and famine to raging epidemics brought about by warmer temperatures, to wars over water and other natural resources. It is not cheerful reading. However, amidst this flood of sobering evidence and opinion there is another stream of voices that seeks solutions and provides hope that we can mend our ways, and the planet.

Like the 'green revolution' that transformed agricultural practice and productivity in the 20th century, a new transformation is underway that responds to the major threats facing us. Armed now with the knowledge that chemical and other 'hard technology' solutions may add to, rather than decrease, our problems, scientists are increasingly working alongside smallholder farmers in mixed agroforestry landscapes to

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share knowledge and experience. Many smallholders living on the margins of forests have maintained and cherished those forests for generations, establishing woodlands of mixed fruit and timber trees and managing sustainable agricultural plots in landscapes that are a mosaic of economic and ecological activities.

These landscapes not only provide homes and livelihoods for their inhabitants but also help to maintain a healthy environment for people living in totally different landscapes, such as urban centers, often far away. These mixed agroforestry landscapes provide the 'environmental services'—clean air and water, biologically diverse habitats, stable soils, natural beauty— that keep our planet livable.

It is our challenge to use scientific knowledge to enhance and complement farmers' local ecological knowledge and create not only more productive agricultural systems but also more sustainable ones. We are already seeing the promotion of 'climate-smart agriculture' that draws on scientific research and the know-how of smallholder farmers to create farming systems that combine tree and annual crops, use high quality germplasm and clonal varieties, manage small farms in ways that decrease carbon emissions and erosion and increase soil fertility, and protect high carbon-stock forests from further degradation in order to ensure clean water and air and maintain biodiversity.

The World Agroforestry Center's Southeast Asia Program is playing a role in this movement towards 'climate-smart agriculture'. The Center's research and action programs are developing robust mixed tree and crop systems in Sulawesi and the Philippines, the uplands of Vietnam, and in DPR Korea, in close collaboration with local farmers, non-government support organizations and government agencies.

An important element in supporting the development of such systems is research into how smallholders can be rewarded for their work in maintaining the environmental services of the landscapes they manage. Our research is showing that such schemes are possible if they are created in close consultation and partnership with all people who have an interest in the particular landscape.

The aim of our work is not only to create more stable and diverse food supplies but also to improve the livelihoods of smallholder farmers, who are often amongst the poorest citizens of the nations in which we work. To achieve this, we must work side-by-side with our partners: in the fields and homes of smallholders, in the meeting rooms of local government and non-government organizations and in the offices of national governments. We must deploy a range of expertise in various disciplines, from sociology through economics to agricultural and forestry science, to build the case for a sustainable agriculture that boosts food production and incomes for some of the poorest people in the world while at the same time protecting forests, biodiversity and environmental services.

While you may not have noticed too many differences when you last drove through an agricultural landscape, there are changes underway that will see a more sustainable and productive agriculture take root in our islands and on the mainland of Southeast Asia. It is the challenge for all of us to support this transformation in whatever way we can. If we cannot meet the challenge, then the bleakest predictions mentioned above will be our lot and the fate of our children. This is not an option that anyone could want. Instead, let us work together to ensure that economic growth and the health of our planet and of the human race are not mutually exclusive options. «